

1 I claim:

2 1. A leak-testing device for leak-testing a pipeline system, the pipeline system
3 including a standpipe, the standpipe including a tee fitting, the tee fitting having a tubular
4 section extending between first and second opposing openings axially aligned with each other,
5 the tee fitting including a third opening communicating with the tubular section of the tee fitting
and having internal threads, said leak-testing device comprising in combination:

6 a) a generally circular base plate, said circular base plate having a threaded outer
7 periphery for threadedly engaging the internal threads of the third opening of the tee
8 fitting, said generally circular base plate having a fluid passage extending centrally
therethrough;

9 b) a wrench collar attached to said generally circular base plate and adapted to be
10 engaged by a wrench for tightening said generally circular base plate within the third
opening of the tee fitting;

11 c) a threaded bushing having a fluid passage extending centrally therethrough, the
12 fluid passage of said threaded bushing being axially aligned with, and in fluid
13 communication with, the fluid passage of said generally circular base plate, the fluid
14 passage of said threaded bushing and the fluid passage of said generally circular base
15 plate collectively forming a fluid channel, said threaded bushing being adapted to
engage an end of a water supply hose to fill the standpipe with water through said fluid
channel;

16 d) a one-way valve disposed within said fluid channel for admitting water through
17 the fluid channel into the standpipe, while preventing water from escaping through the
fluid channel out of the standpipe; and

18 e) said leak-testing device being attachable to the third opening of the tee fitting
19 of the standpipe without extending into, and without obstructing fluid flow within, the
20 tubular section of the tee fitting.

21 2. The leak-testing device according to claim 1 further comprising a cap to cover and
22 seal said threaded bushing after leak-testing is complete.

23 3. The leak-testing device according to claim 2 wherein said cap is threaded to
24 threadedly engage the threaded bushing.

25 4. The leak-testing device according to claim 1 wherein said one-way valve includes a
26 valve seat having at least one aperture therein, and a deformable valve disposed proximate the
27 valve seat.
28

1 5. The leak-testing device according to claim 4 wherein said valve seat is located
2 within one of the group of elements consisting of said generally circular base plate, said wrench
3 collar, and said threaded bushing.

4 6. The leak-testing device according to claim 4 wherein said one-way valve is an
5 umbrella valve that allows fluid to flow in only one direction through the valve seat.

6 7. The leak testing device according to claim 1 wherein said threaded bushing is
7 externally-threaded to engage a female end of a water supply hose.

8 8. The leak testing device according claim 1 wherein said threaded bushing is
9 internally-threaded to engage a male end of a water supply hose.

10 9. A leak-testing device for leak-testing a pipeline system, the pipeline system
11 including a standpipe, the standpipe including a tee fitting, the tee fitting having a tubular
12 section extending between first and second opposing openings axially aligned with each other,
13 the tee fitting including a third opening communicating with the tubular section of the tee fitting
14 and having internal threads, said leak-testing device comprising in combination:

15 a) a generally circular base plate, said circular base plate having a threaded outer
16 periphery for threadedly engaging the internal threads of the third opening of the tee
17 fitting, said generally circular base plate having a first channel extending centrally
18 therethrough;

19 b) a wrench collar attached to said generally circular base plate and adapted to be
20 engaged by a wrench for tightening said generally circular base plate within the third
21 opening of the tee fitting, said wrench collar having a second channel extending centrally
22 therethrough;

23 c) a threaded bushing having a third channel extending centrally therethrough;
24 said threaded bushing being adapted to engage an end of a water supply hose to fill the
25 standpipe with water;

26 d) said generally circular base plate, said wrench collar, and said threaded bushing
27 being integral with each other, and the first, second, and third channels being aligned
28 about a central axis to collectively form a continuous fluid channel;

 e) a one-way valve disposed within said fluid channel for admitting water through
the fluid channel into the standpipe, while preventing water from escaping through the
fluid channel out of the standpipe; and

1 f) said leak-testing device being attachable to the third opening of the tee fitting
2 of the standpipe without extending into, and without obstructing fluid flow within, the
3 tubular section of the tee fitting.

4 10. The leak-testing device according to claim 9 further including a threaded cap to
5 threadedly engage the threaded bushing, and to cover and seal said threaded bushing after leak-
6 testing is complete.

7 11. The leak-testing device according to claim 9 wherein said one-way valve includes a
8 valve seat having at least one aperture therein, and a deformable valve disposed proximate the
9 valve seat, and wherein the valve seat is disposed between said threaded bushing and said
10 wrench collar.

11 12. The leak-testing device according to claim 9 wherein said one-way valve includes a
12 valve seat having at least one aperture therein, and a deformable valve disposed proximate the
13 valve seat, and wherein the valve seat is disposed between said wrench collar and said generally
14 circular base plate.

15 13. The leak-testing device according to claim 9 wherein the one-way valve is an
16 umbrella valve.

17 14. A method for leak-testing a pipeline system, the pipeline system including a
18 standpipe, the standpipe including a tee fitting, the tee fitting having a tubular section extending
19 between first and second opposing openings axially aligned with each other, the tee fitting
20 including a third opening communicating with the tubular section of the tee fitting and having
internal threads, said method comprising the steps of:

21 a) providing a generally circular base plate having a threaded outer periphery for
22 mating with the internal threads of the third opening of the tee fitting, the generally
circular base plate having a fluid passage extending centrally therethrough;

23 b) providing a wrench collar on the generally circular base plate;

24 c) disposing the generally circular base plate within the third opening of the tee
fitting;

25 d) engaging a wrench with the wrench collar for tightening the generally circular
26 base plate within the third opening of the tee fitting;

27 e) providing a threaded bushing having a fluid passage extending centrally
28 therethrough, the fluid passage of said threaded bushing being axially aligned with, and
in fluid communication with, the fluid passage of the generally circular base plate, the

1 fluid passage of said threaded bushing and the fluid passage of said generally circular
2 base plate collectively forming a fluid channel;

3 f) forming a one-way valve within the fluid channel for admitting water through
4 the fluid channel into the standpipe, while preventing water from escaping through the
5 fluid channel out of the standpipe;

6 g) attaching the end of a water hose to the threaded bushing and substantially
7 filling the pipeline system with water;

8 h) checking the pipeline system for leaks; and

9 i) permanently leaving the generally circular base plate, wrench collar, threaded
10 bushing and one-way valve in place within the third opening of the tee fitting after leak
11 testing is completed.

12 15. The method according to claim 14 including the further step of engaging a sealing
13 cap over the threaded bushing after leak testing is completed.

14 16. The method according to claim 15 wherein the threaded bushing and sealing cap are
15 made of plastic, and including the further step of applying plastic cement to at least one of the
16 threaded bushing and sealing cap before engaging the sealing cap over the threaded bushing.

17 17. A method for leak-testing a pipeline system, the pipeline system including a
18 standpipe, the standpipe including a tee fitting, the tee fitting having a tubular section extending
19 between first and second opposing openings axially aligned with each other, the tee fitting
20 including a third opening communicating with the tubular section of the tee fitting and having
21 internal threads, said method comprising the steps of:

22 a) attaching a leak testing device to the third opening of the tee fitting, the leak
23 testing device including a threaded bushing for receiving the end of a water supply hose,
24 and including a one-way valve for admitting water through the threaded bushing into the
25 standpipe, while preventing water from escaping through the threaded bushing out of the
26 standpipe;

27 b) attaching an end of a water supply hose to the threaded bushing of the leak
28 testing device;

c) supplying water to the threaded bushing and into the standpipe through the
leak testing device to substantially fill the standpipe;

d) testing the pipeline system for leaks;

e) detaching the water supply hose from the threaded bushing of the leak testing
device; and

1 f) permanently leaving the leak testing device in place within the third opening of
2 the tee fitting after leak testing is completed.

3 18. The method according to claim 17 including the further step of engaging a sealing
4 cap over the threaded bushing after leak testing is completed to permanently seal the threaded
5 bushing.

6 19. The method according to claim 18 wherein the sealing cap and threaded bushing
7 have mating threads.

8 20. The method according to claim 18 wherein the threaded bushing and sealing cap are
9 made of plastic, and including the further step of applying plastic cement to at least one of the
10 threaded bushing and sealing cap before engaging the sealing cap over the threaded bushing to
11 form a permanent seal therebetween.